

In re Patent Application of
DELLMO ET AL.
Serial No. 10/806,937
Filed: MARCH 23, 2004

In the Claims:

This listing of claims replaces all prior versions and listing of claims in the application.

1. (Currently Amended) A cryptographic device comprising:

a cryptographic module and a communications module removably coupled thereto;

said cryptographic module comprising a user network interface and a cryptographic processor coupled thereto;

said communications module comprising a network communications interface coupled to said cryptographic processor;

said cryptographic processor communicating with said user network interface using a Media Independent Interface (MII) and a serial interface, and said cryptographic processor communicating with said network communications interface using the MII and the serial interface;

said cryptographic module and said communications module communicating using the MII to transfer encrypted data therebetween and using the serial interface to transfer communications module configuration operations therebetween.

2. (Previously Presented) The cryptographic device of Claim 1 wherein said user network interface and said network

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communications interface both comprise Local Area Network (LAN) interfaces.

3. (Previously Presented) The cryptographic device of Claim 1 wherein said cryptographic processor comprises:

a host network processor communicating with said user network interface using the MII; and

a cryptography circuit communicating with said host network processor using the MII.

4. (Original) The cryptographic device of Claim 1 wherein said cryptographic processor further comprises:

an encrypted data buffer circuit coupled between said user network interface and said cryptography circuit; and

an unencrypted data buffer circuit coupled between said cryptography circuit and said network communications interface.

5. (Previously Presented) The cryptographic device of Claim 4 wherein communications to and from said encrypted data buffer and said unencrypted data buffer use the MII.

6. (Cancelled).

7. (Previously Presented) The cryptographic device of Claim 1 wherein said communications module comprises a

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predetermined one from among a plurality of interchangeable communications modules each for communicating over a different communications media.

8. (Original) The cryptographic device of Claim 1 wherein said network communications interface comprises a wireless LAN (WLAN) communication circuit.

9. (Original) The cryptographic device of Claim 1 wherein said network communications interface comprises a wireline communication circuit.

10. (Original) The cryptographic device of Claim 1 wherein said network communications interface comprises a fiber optic communication circuit.

11. (Original) The cryptographic device of Claim 1 wherein said user network interface comprises an Ethernet interface.

12. (Currently Amended) A cryptographic device comprising:
a cryptographic module and a communications module coupled thereto;

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said cryptographic module comprising a user Local Area Network (LAN) interface and a cryptographic processor coupled thereto;

said communications module comprising a network LAN interface coupled to said cryptographic processor;

said cryptographic processor communicating with said user network interface using a Media Independent Interface (MII) and a serial interface, and said cryptographic processor communicating with said network LAN interface using the MII and the serial interface;

said cryptographic module and said communications module both operating using at least one unique external media access control (MAC) address, and at least one fixed internal MAC address;

said cryptographic module and said communications module communicating using the MII to transfer encrypted data therebetween and using the serial interface to transfer communications module configuration operations therebetween.

13. (Previously Presented) The cryptographic device of Claim 12 wherein said cryptographic processor comprises:

a host network processor communicating with said user LAN interface using the MII; and

a cryptography circuit communicating with said host network processor using the MII.

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14. (Original) The cryptographic device of Claim 12 wherein said cryptographic processor further comprises:
an encrypted data buffer circuit coupled between said user LAN interface and said cryptography circuit; and
an unencrypted data buffer circuit coupled between said cryptography circuit and said network communications interface.

15. (Original) The cryptographic device of Claim 12 wherein communications to and from said encrypted data buffer and said unencrypted data buffer use MII.

16. (Original) The cryptographic device of Claim 12 wherein said communications module is removably coupled to said cryptographic module; and wherein said communications module comprises a predetermined one from among a plurality of interchangeable communications modules each for communicating over a different communications media.

17. (Original) The cryptographic device of Claim 12 wherein said network LAN interface comprises a wireless LAN (WLAN) communication circuit.

18. (Original) The cryptographic device of Claim 12 wherein said network LAN interface comprises a wireline LAN communication circuit.

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19. (Original) The cryptographic device of Claim 12 wherein said network LAN interface comprises a fiber optic LAN communication circuit.

20. (Original) The cryptographic device of Claim 12 wherein said user LAN interface comprises an Ethernet interface.

21. (Currently Amended) A communications method comprising:

removably coupling a cryptographic module to a network device, the cryptographic module comprising a user network interface and a cryptographic processor coupled thereto;

providing a communications module comprising a network communications interface coupled to the cryptographic processor;

using the cryptographic processor to communicate with the user network interface and the network communications interface using a Media Independent Interface (MII) and a serial interface; and

using the network communications interface to communicate with a network;

using the cryptographic module and the communications module to communicate using the MII to transfer encrypted data therebetween and using the serial interface to transfer communications module configuration operations therebetween.

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22. (Previously Presented) The method of Claim 21 wherein the user network interface and the network communications interface both comprise LAN interfaces.

23. (Previously Presented) The method of Claim 21 wherein the cryptographic processor comprises:

a host network processor communicating with the user network interface using the MII;

a cryptography circuit communicating with the host network processor using the MII;

an encrypted data buffer circuit coupled between the user network interface and the cryptography circuit; and

an unencrypted data buffer circuit coupled between the cryptography circuit and the network communications interface.

24. (Previously Presented) The method of Claim 23 further comprising using the MII for communications to and from the encrypted data buffer and the unencrypted data buffer.

25. (Original) The method of Claim 21 wherein the cryptographic module and the communications module both operate using at least one unique external media access control (MAC) address, and at least one fixed internal MAC address.

26. (Previously Presented) The method of Claim 21 wherein the communications module comprises a predetermined one

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from among a plurality of interchangeable communications modules each for communicating over a different communications media.

27. (Original) The method of Claim 21 wherein the network communications interface comprises at least one of a wireless Local Area Network (WLAN) communication circuit, a wireline communication circuit, and a fiber optic communication circuit.

28. (Currently Amended) A communications system comprising:

a plurality of network devices coupled together to define a network, and a cryptographic device removably coupled to at least one of said network devices;

said cryptographic device comprising a cryptographic module coupled to said at least one network device, and a communications module coupled to said cryptographic module;

said cryptographic module comprising a user network interface and a cryptographic processor coupled thereto;

said communications module comprising a network communications interface coupled to said cryptographic processor;

said cryptographic processor communicating with said user network interface using a Media Independent Interface (MII) and a serial interface, and said cryptographic processor

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communicating with said network communications interface using
the MII and the serial interface;

said cryptographic module and said communications
module communicating using the MII to transfer encrypted data
therebetween and using the serial interface to transfer
communications module configuration operations therebetween.

29. (Previously Presented) The communications system
of Claim 28 wherein said user network interface and said network
communications interface both comprise Local Area Network (LAN)
interfaces.

30. (Previously Presented) The communications system
of Claim 28 wherein said cryptographic processor comprises:

a host network processor communicating with said user
network interface using the MII; and

a cryptography circuit communicating with said host
network processor using the MII.

31. (Original) The communications system of Claim 28
wherein said cryptographic processor further comprises:

an encrypted data buffer circuit coupled between said
user network interface and said cryptography circuit; and

an unencrypted data buffer circuit coupled between
said cryptography circuit and said network communications
interface.

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32. (Original) The communications system of Claim 28 wherein communications to and from said encrypted data buffer and said unencrypted data buffer use the predetermined protocol.

33. (Original) The communications system of Claim 28 and wherein said cryptographic module and said communications module both operate using at least one unique external media access control (MAC) address, and at least one fixed internal MAC address.

34. (Previously Presented) The communications system of Claim 28 wherein said communications module comprises a predetermined one from among a plurality of interchangeable communications modules each for communicating over a different communications media.

35. (Original) The communications system of Claim 28 wherein said network communications interface comprises at least one of a wireless LAN (WLAN) communication circuit, a wireline communication circuit, and a fiber optic communication circuit.

36. (Original) The communications system of Claim 28 wherein said user network interface comprises an Ethernet interface.

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37. (Currently Amended) A cryptographic module comprising:

a user network interface; and

a cryptographic processor removably coupled to said user network interface;

said cryptographic processor for communicating with said user network interface using a Media Independent Interface (MII) and a serial interface, and also for communicating with a network communications module using the MII and the serial interface;

said cryptographic module and said communications module communicating using the MII to transfer encrypted data therebetween and using the serial interface to transfer communications module configuration operations therebetween.

38. (Previously Presented) The cryptographic module of Claim 37 wherein said user network interface comprises a Local Area Network (LAN) interface.

39. (Previously Presented) The cryptographic module of Claim 37 wherein said cryptographic processor comprises:

a host network processor communicating with said user network interface using the MII; and

a cryptography circuit communicating with said host network processor using the MII.

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40. (Previously presented) The cryptographic module of Claim 39 wherein said cryptographic processor further comprises:

an encrypted data buffer circuit coupled between said user network interface and said cryptography circuit; and

an unencrypted data buffer circuit coupled between said cryptography circuit and said network communications module.

41. (Previously Presented) The cryptographic module of Claim 40 wherein communications to and from said encrypted data buffer and said unencrypted data buffer use the MII.

42. (Previously presented) The cryptographic module of Claim 37 and wherein said user network interface operates using at least one unique external media access control (MAC) address, and wherein said cryptographic processor operates using at least one fixed internal MAC address.